REMARKS

Substance of Interview.

Applicants wish to express appreciation to Examiners Christopher Lavin and Brian

Werner for the courtesy of an interview which was granted to Applicant's representative Michael

Faibisch (Reg. No. 46,427). The interview was held at the USPTO on November 15, 2005. The

Examiner's summary of the substance of the interview is set forth in the Interview Summary,

Paper No. 11162005. Agreement was reached.

General Remarks

Claims 1 - 7, 9 - 11, 13 - 18 and 20 - 25 are pending in the application. Claims 8, 12, 19

and 26 – 55 are canceled without prejudice or disclaimer. Claims 1, 16, 17, 18 and 24 are

currently amended with self-explanatory amendment as shown above. No new matter has been

added.

Applicant has carefully studied the outstanding Office Action in the present application.

The present response is intended to be fully responsive to all points of rejection raised by the

Examiner and is believed to place the application in condition for allowance. Favorable

reconsideration and allowance of the application are respectfully requested.

Objection to the Drawings

The drawings are objected to on the grounds that not every numbered item would be

readily identified by one skilled in the art, and for lack of certain text labels.

In the interview held on November 15, 2005, Applicant's representative pointed out that text labels would not be appropriate, for example in Fig. 3, due to the detailed mechanical nature of the drawings.

The Applicants are grateful for the Examiner's agreement, expressed at interview, to withdraw this objection.

Claims Rejections

Claims 1 and 2 stand rejected under 35 U.S.C. 102(e) as being anticipated by Taff (6,165,658).

Claims 3 and 4 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Taff (6,165,658) in view of Waldener (5,643,699).

Claims 5 – 26, 28 – 55 stand rejected under 36 U.S.C. 103(a) as being unpatentable over Taff in view of Lichtenstein.

Claim 27 stands rejected under 35 U.S.C. 102(b) as being anticipated by Berasi (5,170,058).

Applicants respectfully traverse the rejections as applied to the rejected claims.

Taff discloses nonlinear image distortion correction in printed circuit board manufacturing in which non-linearly corrected image data is produced to match an initial set of image data for layers that are not attached.

Lichtenstein discloses a method and apparatus for registration and control during processing of a workpiece, particularly during producing images on substrates in preparing printed circuit boards. The marks do not pass through any layer of the workpiece.

Waldner discloses a method and device for the mutual alignment of film and a printed circuit board that are not attached when imaged.

Berasi discloses apparatus and a method for alignment verification having an opaque work piece between two artwork masters.

Claim 1, as amended, now includes the following distinguishing recitation:

> *visually imaging a portion of the image on the lower layer of said multi-layered printed circuit board, said upper layer and said lower layer being attached to each other when visually imaged, wherein said portion does not pass through said lower layer;*

Support for the amendments made to claim 1 may be found, *inter alia*, at Figs. 9A, 9B, 10 and 10B, and at the description at paragraphs 118, 124, 134, and 140.

Nothing in the cited prior art shows or suggests the distinguishing features of claim 1. As noted in the interview, Taff fails to show or suggest an upper layer and a lower layer being attached to each other when visually imaged, or that a portion being imaged does not pass through a lower layer, *inter alia*. In view of the foregoing, the Examiner is respectfully requested to withdraw this rejection of claim 1.

Claims 2 - 7, 9 - 11, and 13 - 15 depend directly and ultimately from claim 1 and are patentable at least be virtue of their dependency from claim 1. The Examiner is thus respectfully requested to withdraw the rejection of claims 2 - 7, 9 - 11, and 13 - 15.

Claim 16, as amended, now includes the following distinguishing recitation:

> *detecting at least two holes provided in the upper layer, said at least two holes being provided in predetermined alignment to said pattern and not passing through said lower layer, wherein said lower layer is attached to said upper layer;*

Support for the amendments made to claim 1 may be found, *inter alia*, at Figs. 9A, 9B, 10 and 10B, and at the description at paragraphs 118, 124, 134, and 140.

Nothing in the cited prior art shows or suggests the distinguishing features of claim 16. As noted in the interview, neither Taff nor Lichtenstein, alone or in combination, show or suggest at least two holes provided in the upper layer having a detectable orientation and not passing through a lower layer, or that the lower layer is attached to the upper layer, *inter alia*. In view of the foregoing, the Examiner is respectfully requested to withdraw this rejection of claim 16.

Claim 17, as amended, now includes the following distinguishing recitation:

> *forming at least one hole in an upper layer of a multi-layered printed circuit board substrate said upper layer being attached to at least one lower layer of circuitry, said at least one hole not passing through a lower layer of circuitry and having a known spatial orientation to a pattern formed on a lower layer of the substrate;*

Support for the amendments made to claim 1 may be found, *inter alia*, at Figs. 9A, 9B, 10 and 10B, and at the description at paragraphs 118, 124, 134, and 140.

With regard to possible issues concerning the scope of enablement raised by the Examiner in the interview with respect to claim 16, Applicants respectfully direct the Examiner's attention to the claim 17 requirement that the at least one hole has a known spatial orientation to a pattern formed on a lower layer.

Nothing in the cited prior art shows or suggests the distinguishing features of claim 17. As noted in the interview, neither Taff nor Lichtenstein, alone or in combination, show or suggest at least one hole in an upper layer of a multi-layered printed circuit board substrate not passing through a lower layer of circuitry, or an upper layer being attached to at least one lower layer of circuitry, *inter alia*. In view of the foregoing, the Examiner is respectfully requested to withdraw this rejection of claim 17.

Claims 18, and 20 - 25 depend directly and ultimately from claim 17 and are patentable at least be virtue of their dependency from claim 25. The Examiner is thus respectfully requested to withdraw the rejection of claims 18, and 20 - 25.

Claims 27 - 55 are canceled without prejudice or disclaimer. Rejection of these claims is thus obviated.

Conclusion and request for telephone interview

In view of the foregoing, this application is believed to be in order. Reconsideration and allowance of this application are respectfully solicited. If any points remain in issue which the

Examiner feels may be best resolved through a personal or telephone interview, the Examiner is

kindly invited to contact the undersigned attorney at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue

Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any

overpayments to said Deposit Account.

Respectfully submitted,

/Kelly G. Hyndman 39,234/

SUGHRUE MION, PLLC   Kelly G. Hyndman
Telephone: (202) 293-7060   Registration No. 39,234
Facsimile: (202) 293-7860

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